

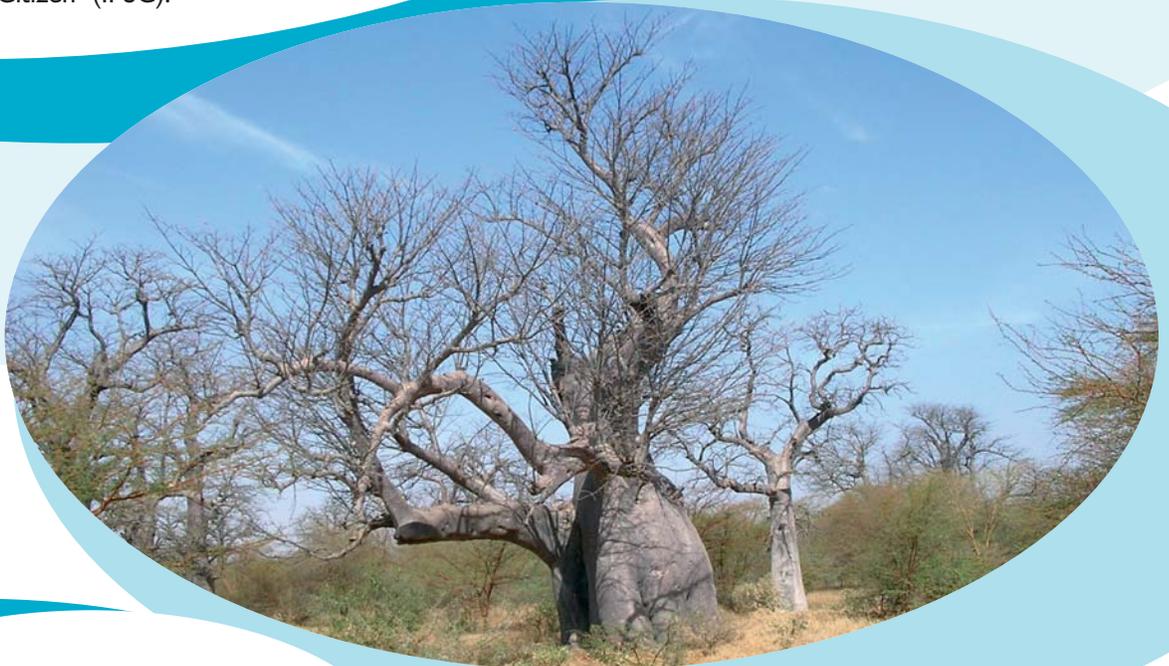
DG JRC: The Africa Observatory supporting sustainable development – for Africa, within African networks

Africa faces some of the world's greatest development challenges. More than 200 million Africans are undernourished, many thousands are housed in refugee camps, and the continent's essential resources, such as water, forests and agricultural land, are under threat from war, disease and climate change. The EU is the world's largest donor of development aid and a leader in the fight to eradicate poverty and improve the lives of millions of Africans. DG JRC is playing a vital role in this effort through deploying its world-class capabilities in global observation technologies.

DG JRC is using its experience in implementing the European Global Monitoring for Environment and Security' (GMES) Programme for the benefit of Africa. In 2005, DG JRC launched the Africa Observatory for Sustainable Development, a dedicated information system using satellite observation, information technologies, statistical analysis and modelling. The Observatory provides early-warning and real-time support to a range of European Commission Directorates-General in their policy-making and operations in Africa, as well as to African governments and organisations. The Africa Observatory is making significant contributions to:

- Saving lives through effective emergency-relief management;
- Supporting African efforts to manage the continent's rich natural resources effectively for present and future generations;
- Avoiding food crises and starvation through predicting agricultural production and potential crop failures;
- Helping Africa avoid conflict situations through early warnings, current crisis situation and humanitarian needs assessments, and monitoring for illicit activities, such as unauthorised logging; and
- Helping mitigate the effects of climate change on the vulnerable rural populations of Africa.

The Africa Observatory calls on research know-how from across DG JRC, in particular from the Institute for Environment and Sustainabilityⁱ (IES) and the Institute for the Protection and Security of the Citizenⁱⁱⁱ (IPSC).

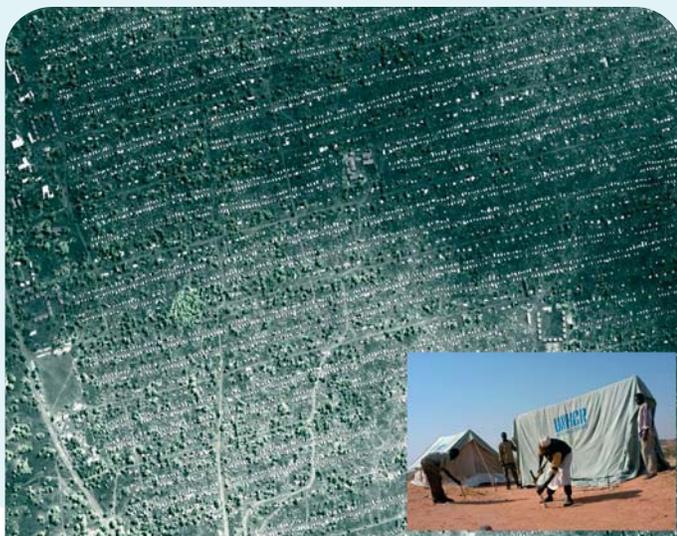


Supporting more effective and timely relief operations

The European Commission's Humanitarian Office (ECHO) provides emergency aid to those dispossessed by natural disasters and conflict. To ensure that the right aid is delivered in the right place and at the right time, ECHO needs access to timely information on refugees – their location and numbers. Using space observation technology, the Africa Observatory supplies such information to the Directorates-General involved in the disbursement and control of emergency aid. For example, DG JRC used satellite imagery to count the dwellings in a Rwandese refugee camp in Tanzania and thus estimate the number of refugees – allowing the right amount of aid to go where it was most needed. Other contributions of the Africa Observatory include early warning of potential conflicts by identifying illicit activities and structural deficiencies that fuel tensions and violence and hamper sustainable development, crisis response and prevention management, and tracking illicit activities such as timber logging and diamond mining.

Monitoring Africa's forests and fields

Wealth, and often survival in many African regions depends on natural resources such as forests for timber and land for crops. Using satellite imagery, DG JRC gathers and processes information on land use, biodiversity, land degradation and water resources to produce environmental information and land-resource maps for the whole of Africa. The location and timing of water replenishment in lakes and rivers, the detection of logging activities in forests – these are examples of the important information that authorities can use to manage resources effectively. Already geographical information systems are helping to improve management of national parks, and a collaborative framework with African Forestry Ministries is in place for regional monitoring of logging in Central and West Africa. By providing information for effective resource planning, DG JRC is not only helping to solve short-term problems, but is also enabling long-term resource planning that will boost economic growth and avoid conflicts over resources.



Lukole refugee camp (Tanzania)



Monitoring diamond production and trade

Helping relieve famine through predicting harvest yields and crop failures

Using experience gained from monitoring crops and land use in the EU, DG JRC now operates a crop-monitoring and forecasting system that assesses agricultural productivity in over 30 countries vulnerable to crises and food shortages. The Horn of Africa, including Ethiopia, Somalia and the Sudan, is particularly important because of recurrent food crises caused by crop failures and conflict, and the region lacks any regional monitoring system of its own. The Africa Observatory produces monthly and ten-daily reports on crop condition, yield prospects and the likelihood of food shortages. These reports, delivered throughout the year, are shared with EU aid offices, UN partners and African institutions to coordinate any measures needed. For the longer term, the Africa Observatory is working to build capacity in regional and national food security information systems in Africa.

Investigating the impact of climate change on Africa

DG JRC conducts research into environmental and climate change science. Research activities include, among others: global vegetation monitoring, land, soil and waste management, and monitoring of inland and marine waters. These activities use earth observation technologies, in particular GMES, and DG JRC is now extending these technologies to the Africa Observatory. Africa has a significant proportion of the world's forest, grassland and wetland environments, changes to which can have both local and global consequences. Long-term research at DG JRC aims to understand how environmental changes in Africa, both natural and man-made, will affect Africans and the rest of the world. The continent's rural populations are very vulnerable to the effects of climate change, such as droughts, floods and storms. DG JRC research makes a vital contribution to highlighting how climate change will influence the livelihoods of the poorest communities in Africa.

i GMES website on Europa: http://europa.eu.int/comm/space/gmes/index_en.htm

ii IES website: <http://ies.jrc.cec.eu.int/>

iii IPSC website: <http://ipsc.jrc.cec.eu.int/>